

WHAT IS CLAIMED IS:

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1. A white balance control apparatus
comprising:

an evaluation value calculation circuit
calculating and outputting evaluation values of color
10 components of each of a plurality of regions of
digital image data;

a luminance conversion part converting the
evaluation values of each of the regions into a
luminance value; and

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a high-luminance weighting part converting
the evaluation values of each of the regions into a
base white balance control amount, calculating a non-
weighted white balance control amount from the base
white balance control amount and a weighted white

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balance control amount by performing weighting
processing on the base white balance control amount
by using the luminance value of each of the regions
so that a region of higher luminance has a greater
weight, and calculating a white balance control

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amount to be applied to the image data at a time of

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image recording by using the weighted and non-weighted white balance control amounts.

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2. The white balance control apparatus as claimed in claim 1, wherein said high-luminance weighting part obtains the weighted white balance control amount by dividing, by a sum of the luminance values of the regions, a sum of values obtained by multiplying the base white balance control amounts of the regions by the corresponding luminance values.

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3. The white balance control apparatus as claimed in claim 1, wherein said high-luminance weighting part calculates the non-weighted white balance control amount by averaging the base white control amounts of the regions.

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4. The white balance control apparatus as
claimed in claim 1, wherein said evaluation value
calculation circuit calculates the evaluation value
of each of the color components of each of the
5 regions by summing values of each of the color
components of each of the regions.

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5. The white balance control apparatus as
claimed in claim 1, wherein said evaluation value
calculation circuit comprises said luminance
conversion part.

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6. The white balance control apparatus as
20 claimed in claim 1, wherein said high-luminance
weighting part comprises said luminance conversion
part.

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7. The white balance control apparatus as claimed in claim 1, further comprising a control part controlling an operation of the entire apparatus,

wherein said control part comprises said
5 high-luminance weighting part.

10 8. The white balance control apparatus as claimed in claim 1, further comprising a white determination part determining whether a region is white based on the base white balance control amount of the region,

15 wherein said high-luminance weighting part calculates the weighted and non-weighted white balance control amounts based on the base white control amount and the luminance value only of regions determined to be white by said white
20 determination part.

25 9. The white balance control apparatus as

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claimed in claim 8, wherein said high-luminance weighting part comprises said white determination part.

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10. The white balance control apparatus as claimed in claim 1, wherein said high-luminance weighting part employs a weighted average of the weighted and non-weighted white balance control amounts as the white balance control amount to be applied to the image data, the weighted average being obtained by using a parameter set to a desired value.

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11. A white balance control method comprising the steps of:

(a) calculating and outputting evaluation values of color components of each of a plurality of regions of digital image data;

(b) converting the evaluation values of each of the regions into a luminance value;

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(c) converting the evaluation values of each of the regions into a base white balance control amount;

(d) calculating a non-weighted white balance control amount from the base white balance control amount and a weighted white balance control amount by performing weighting processing on the base white balance control amount by using the luminance value of each of the regions so that a region of higher luminance has a greater weight; and

(e) calculating a white balance control amount to be applied to the image data at a time of image recording by using the weighted and non-weighted white balance control amounts.

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12. The white balance control method as claimed in claim 11, wherein said step (d) obtains the weighted white balance control amount by dividing, by a sum of the luminance values of the regions, a sum of values obtained by multiplying the base white balance control amounts of the regions by the corresponding luminance values.

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13. The white balance control method as
claimed in claim 11, wherein said step (d) calculates
the non-weighted white balance control amount by
averaging the base white control amounts of the
5 regions.

10 14. The white balance control method as
claimed in claim 11, wherein said step (a) calculates
the evaluation value of each of the color components
of each of the regions by summing values of each of
the color components of each of the regions.

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15. The white balance control method as
20 claimed in claim 11, further comprising the step of
(f) determining whether a region is white based on
the base white balance control amount of the region,
wherein said step (d) calculates the
weighted and non-weighted white balance control
25 amounts based on the base white control amount and

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the luminance value only of regions determined to be white by said step (f).

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16. The white balance control method as claimed in claim 11, wherein said step (e) employs a weighted average of the weighted and non-weighted
10 white balance control amounts as the white balance control amount to be applied to the image data, the weighted average being obtained by using a parameter set to a desired value.

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17. An image pickup apparatus comprising:
a control part controlling an operation of
20 the entire image pickup apparatus;
an image pickup part picking up an image of an object and converting data on the image into digital image data;
a data processing part that processes the
25 digital image data;

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an evaluation value calculation circuit
calculating and outputting evaluation values of color
components of each of a plurality of regions of the
digital image data;

5 a luminance conversion part converting the
evaluation values of each of the regions into a
luminance value; and

 a high-luminance weighting part converting
the evaluation values of each of the regions into a
10 base white balance control amount, calculating a non-
weighted white balance control amount from the base
white balance control amount and a weighted white
balance control amount by performing weighting
processing on the base white balance control amount
15 by using the luminance value of each of the regions
so that a region of higher luminance has a greater
weight, and calculating a white balance control
amount to be applied to the image data at a time of
image recording by using the weighted and non-
20 weighted white balance control amounts.

25 18. The image pickup apparatus as claimed

in claim 17, wherein said high-luminance weighting
part obtains the weighted white balance control
amount by dividing, by a sum of the luminance values
of the regions, a sum of values obtained by
5 multiplying the base white balance control amounts of
the regions by the corresponding luminance values.

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19. The image pickup apparatus as claimed
in claim 17, wherein said high-luminance weighting
part calculates the non-weighted white balance
control amount by averaging the base white control
15 amounts of the regions.

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20. The image pickup apparatus as claimed
in claim 17, wherein said evaluation value
calculation circuit calculates the evaluation value
of each of the color components of each of the
regions by summing values of each of the color
25 components of each of the regions.

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21. The image pickup apparatus as claimed
in claim 17, wherein said evaluation value
calculation circuit comprises said luminance
conversion part.

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22. The image pickup apparatus as claimed
10 in claim 17, wherein said high-luminance weighting
part comprises said luminance conversion part.

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23. The image pickup apparatus as claimed
in claim 17, wherein said control part comprises said
high-luminance weighting part.

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24. The image pickup apparatus as claimed
in claim 17, further comprising a white determination
25 part determining whether a region is white based on

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the base white balance control amount of the region,
wherein said high-luminance weighting part
calculates the weighted and non-weighted white
balance control amounts based on the base white
control amount and the luminance value only of
regions determined to be white by said white
determination part.

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25. The image pickup apparatus as claimed
in claim 24, wherein said high-luminance weighting
part comprises said white determination part.

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26. The image pickup apparatus as claimed
in claim 17, wherein said high-luminance weighting
part employs a weighted average of the weighted and
non-weighted white balance control amounts as the
white balance control amount to be applied to the
image data, the weighted average being obtained by
using a parameter set to a desired value.

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27. The image pickup apparatus as claimed in claim 17, further comprising an image output part outputting the image of the object.